

WHAT IS CLAIMED IS:

1. A method supporting a switch from a point-to-multipoint channel to a point-to-point channel for transmitting
5 multicast data from a mobile communication network to a mobile station, said method comprising:
said mobile station determining a link quality of a point-to-multipoint channel based on link quality related measurements on said point-to-multipoint
10 channel, which point-to-multipoint channel is currently used by said mobile communication network for transmitting multicast data; and
said mobile station requesting from said mobile communication network the transmission of said
15 multicast data via a point-to-point channel, in case said determined link quality lies below a given link quality.
2. A method according to claim 1, further comprising said
20 network establishing a point-to-point channel to said mobile station upon receiving such a request to transmit said multicast data via a point-to-point channel and transmitting said multicast data via said established point-to-point channel.
- 25 3. A method according to claim 1, wherein said determined link quality of said point-to-multipoint channel is represented at least by a determined mean bit error probability, wherein said given link quality is
30 represented at least by a given maximum bit error probability, and wherein said determined link quality is assumed to lie below said given link quality in case said determined mean bit error probability lies above said given maximum bit error probability.

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4. A method according to claim 1, wherein said determined link quality of said point-to-multipoint channel is represented at least by a determined coefficient of variation of a bit error probability, wherein said given link quality is represented at least by a given minimum coefficient of variation of a bit error probability, and wherein said link quality is assumed to lie below said given link quality in case said determined coefficient of variation of a bit error probability lies below said given minimum coefficient of variation of a bit error probability.
- 10 5. A method according to claim 1, further comprising said network providing an indication of said given link quality to said mobile station.
- 15 6. A method according to claim 5, wherein said network provides an indication of said given link quality to said mobile station for each multicast service for which multicast data is to be transmitted to said mobile station.
- 20 7. A method according to claim 1, wherein in case said mobile station receives multicast data for at least two multicast services via said point-to-multipoint channel, a given link quality is available for each of said multicast services at said mobile station, and said mobile station requests from said mobile communication network the transmission of said multicast data via a point-to-point channel in case said determined link quality lies below the highest of said given link qualities.
- 25 8. A method according to claim 1, further comprising for supporting a switch from a point-to-point channel to a
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point-to-multipoint channel for transmitting multicast data from a mobile communication network to a mobile station:

5 said mobile communication network estimating a link quality of a point-to-multipoint channel while transmitting multicast data on a point-to-point channel to said mobile station; and

10 in case said estimated link quality of said point-to-multipoint channel reaches a required link quality, said mobile communication network ordering said mobile station to switch from said point-to-point channel to said point-to-multipoint channel for receiving said multicast data.

15 9. A method according to claim 8, further comprising preventing a repeated switching between a point-to-point channel and a point-to-multipoint channel for a transmission of multicast data belonging a single session of a multicast service, as long as said mobile station remains within one cell served by said mobile communication network.

10. A mobile station comprising:

25 a measuring portion for performing link quality related measurements on a point-to-multipoint channel via which said mobile station receives multicast data from a mobile communication network;

30 a processing portion for determining a link quality of a point-to-multipoint channel based on measurement results provided by said measuring portion and for comparing a determined link quality with a given link quality; and

35 a transmitting portion for transmitting a request to a mobile communication network to transmit multicast data via a point-to-point channel, in case said

processing portion detects that a determined link quality of a point-to-multipoint channel employed for transmitting said multicast data lies below a given link quality.

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11. A sub-network of a mobile communication network, said sub-network comprising:

10 a receiving portion for receiving from a mobile station a request to switch from using a point-to-multipoint channel to using a point-to-point channel for transmitting multicast data to said mobile station; and

15 a processing portion for switching upon such a request received by said receiving portion from using a point-to-multipoint channel to using a point-to-point channel for transmitting multicast data to said mobile station.

12. A mobile communication system comprising a mobile station and a sub-network of a mobile communication network,

20 said mobile station including:

25 a measuring portion for performing link quality related measurements on a point-to-multipoint channel via which said mobile station receives multicast data from said sub-network;

30 a processing portion for determining a link quality of a point-to-multipoint channel based on measurement results provided by said measuring portion and for comparing a determined link quality with a given link quality; and

35 a transmitting portion for transmitting a request to said sub-network to transmit multicast data via a point-to-point channel, in case said processing portion detects that a determined link quality of a point-to-

multipoint channel employed for transmitting said
multicast data lies below a given link quality;

and said sub-network including:

5 a receiving portion for receiving from said mobile
station a request to switch from using a point-to-
multipoint channel to using a point-to-point channel
for transmitting multicast data to said mobile station;
and

10 a processing portion for switching upon such a
request received by said receiving portion from using a
point-to-multipoint channel to using a point-to-point
channel for transmitting multicast data to said mobile
station.

15 13. A software program product in which a software code for
supporting a switch from a point-to-multipoint channel
to a point-to-point channel for transmitting multicast
data from a mobile communication network to a mobile
station is stored, said software code realizing the
20 following steps when running in a processing component
of a mobile station:

determining a link quality of a point-to-multipoint
channel based on link quality related measurements on
said point-to-multipoint channel, which point-to-
25 multipoint channel is currently used by said mobile
communication network for transmitting multicast data;
and

causing a request to said mobile communication
network to transmit said multicast data via a point-to-
30 point channel, in case said determined link quality
lies below a given link quality.

14. A method supporting a switch from a point-to-point
channel to a point-to-multipoint channel for

transmitting multicast data from a mobile communication network to a mobile station, said method comprising:

5 said mobile communication network estimating a link quality of a point-to-multipoint channel while transmitting multicast data on a point-to-point channel to said mobile station; and

10 in case said estimated link quality of said point-to-multipoint channel reaches a required link quality, said mobile communication network ordering said mobile station to switch from said point-to-point channel to said point-to-multipoint channel for receiving said multicast data.

15 15. A method according to claim 14 comprising as a preceding step:

20 said mobile station performing link quality related measurements on said point-to-point channel, which point-to-point channel is currently used for transmitting multicast data to said mobile station, and transmitting measurement results to said mobile communication network,

25 wherein said mobile communication network estimates said link quality of said point-to-multipoint channel based on said measurement results for said point-to-point channel.

30 16. A method according to claim 15, wherein said mobile station transmits said measurement results to said mobile communication network upon a request from said mobile communication network.

35 17. A method according to claim 14, wherein said mobile communication network orders said mobile station to switch from said point-to-point channel to said point-to-multipoint channel for receiving said multicast data

by means of a switch order, which switch order releases said point-to-point connection and provides parameters for said point-to-multipoint channel to said mobile station.

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18. A method according to claim 14, wherein in case said mobile station receives from said mobile communication network multicast data of at least two multicast services via at least two point-to-point channels, each
10 multicast service requiring a dedicated link quality, said mobile communication network station switches from said point-to-point channels to a point-to-multipoint channel for transmitting said multicast data only, in case the highest required link quality of all multicast
15 services is reached.

19. A sub-network of a mobile communication network, said sub-network comprising:
a transmitting portion for transmitting multicast
20 data using at least one of a point-to-point channel and a point-to-multipoint channel; and
a processing portion for estimating the link quality of a point-to-multipoint channel while said transmitting portion uses a point-to-point channel for
25 transmitting multicast data to a mobile station, and for ordering said mobile station to switch from said point-to-point channel to said point-to-multipoint channel for receiving said multicast data, in case said estimated link quality lies above a required link
30 quality.

20. A mobile communication system comprising a mobile station and a sub-network of a mobile communication network,
35 said mobile station including:

a receiving portion for receiving multicast data
from said mobile communication network; and

said sub-network including:

a transmitting portion for transmitting multicast
5 data using at least one of a point-to-point channel and
a point-to-multipoint channel; and

a processing portion for estimating the link
quality of a point-to-multipoint channel while said
transmitting portion uses a point-to-point channel for
10 transmitting multicast data to a mobile station, and
for ordering said mobile station to switch from said
point-to-point channel to said point-to-multipoint
channel for receiving said multicast data, in case said
estimated link quality lies above a required link
15 quality.

21. A mobile communication system according to claim 20,
wherein said mobile station further includes:

a measuring portion for performing link quality
20 related measurements on a point-to-point channel via
which said mobile station receives multicast data from
said sub-network; and

a transmitting portion for transmitting measurement
results of said measuring portion to said sub-network,
25 and

wherein said sub-network further includes:

a receiving portion for receiving from said mobile
station measurement results on the link quality of a
point-to-point channel employed by said sub-network for
30 transmitting multicast data to said mobile station,
said processing portion estimating said link quality of
said point-to-multipoint channel from measurement
results received by said receiving portion from a
mobile station.

22. A software program product in which a software code for supporting a switch from a point-to-point channel to a point-to-multipoint channel for transmitting multicast data from a mobile communication network to a mobile station is stored, said software code realizing the following steps when running in a processing component of a mobile communication network:
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- estimating a link quality of a point-to-multipoint channel while said mobile communication network is transmitting multicast data on a point-to-point channel to said mobile station; and
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- in case said estimated link quality of said point-to-multipoint channel reaches a required link quality, causing an order to said mobile station to switch from said point-to-point channel to said point-to-multipoint channel for receiving said multicast data.
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